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Vascular Medicine

TREATMENT WITH ANTI-IL12/23 AGENTS IMPROVES FETUIN AND OXIDATIVE STRESS IN PARALLEL WITH ENDOTHELIAL GLYCOCALYX, CORONARY FUNCTION AND MYOCARDIAL TWISTING IN PATIENTS WITH PSORIASIS

Poster Contributions
Poster Hall B1
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Session Title: New Findings in Vascular Inflammation and Endothelial Function
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Background: Fetuin inhibits vascular calcification. The effects of biological agents on fetuin, oxidative stress, vascular and LV function in psoriasis is unclear.

Methods: 101 patients(age:50±12yrs) with psoriasis (PS)were randomized to an anti-TNF-a(n=31),an anti-IL12/23 regimen (n=32) or cyclosporine(n=38).At baseline and 4 months post-treatment,we measured a)augmentation index(AI) and central systolic blood pressure(cSBP) b)flow-mediated dilation (FMD) c)twisting(Tw-deg),peak twisting(Tw-deg/sec)velocity,untwisting at mitral valve opening(unTw) and untwisting(unTw)velocity using speckle tracking echocardiography d)coronary flow reserve(CFR) d)perfused boundary region(PBR) of the sublingual arterial microvessels (5-25 microns)using Sideview Darkfield imaging.The PBR includes the most luminal part of glycocalyx that does allow cell penetration.Increased PBR is an accurate index of reduced endothelial glucocalyx thickness because of a deeper RBC penetration in glycocalyx e)fetuin and malondialdehyde serum levels(MDA)

Results: At baseline decreased fetuin and increased MDA were related with PBR and FMD (p=0.01).PBR was related with cSBP, AI and CFR (p=0.03).Increased MDA was with related reduced Tw, unTw velocity, and unTw (p<0.05).Compared to baseline patients a) on anti-IL12/23 had higher fetuin (28.6±17 vs.40.3±19) and lower MDA (1.75±0.8 vs.1.3.±0.8), (p=0.01) b) on anti-TNFa had similar fetuin (28.8±26 vs.29.3±27) and MDA(1.7±0.8 vs.1.5.±0.8) (p=NS) c) on cyclosporine had decreased fetuin(38.8±24 vs.20.6±23 p=0.04) and unchanged MDA(1.6±0.8vs.1.5.±0.8 p=0.9) post-treatment. Patients on biological agents had higher FMD(11±6 vs.5±4),CFR(3.3±1.4 vs. 2.6±1.5) and reduced PBR (1.93±0.14 vs.2.05±0.2), Tw(15±6 vs.17±9),Tw velocity(97±45 vs.110±48),unTw and unTw velocity (p=0.01)post-treatment. Cyclosporine had no effect on FMD,CFR and glycocalyx but increased AI,cSBP,Tw and unTw velocity (p=0.03).

Conclusion: Decreased fetuin and increased oxidative stress are related with vascular and myocardial dysfunction.Treatment with anti-IL12/23 improves fetuin and oxidative stress leading to improved LV myocardial twisting